



NICOLAE C. RATIU

# Co-location Data centres : Investing in Romania

## The attractions

### ❖ LOCATION

- ❖ Ideal location to serve Eastern/emerging Europe
- ❖ Ideal Location to serve Turkey and the “*stans*”
- ❖ For Global providers plugs the gap in their Plugs the geographic gap they all have between Western Europe, India, Asia and Japan.

### ❖ POWER

- ❖ Extensive Hydro Power:
- ❖ Ideal environment for developing Solar provision
- ❖ NOT facing the impending power issues of Western Europe resulting from the switch from Carbon and Nuclear

### ❖ DEVELOPMENT SPACE

- ❖ Extensive tracts of land and industrial sites available

### ❖ SOCIO/ ECONOMIC

- ❖ Member of EU and NATO
- ❖ Stable currency
- ❖ Municipalities IT Literate ; “SMART CITIES”
- ❖ Planning processes supportive
- ❖ Identified locations qualify for EU funding applications at 50% rate

### ❖ CONNECTIVITY

- ❖ Romania excels in the provision of Fast and Resilient fibre links Nationally and Internationally
- ❖ In 2015, Romania ranked 10th in the world and 1st in Europe in terms of average Internet peak connection speed with 73.6 Mbit/s.

### ❖ COSTS

- ❖ Possible to achieve costs less than 50% of current Frankfurt cabinet prices
- ❖ With EU funding cost can be driven lower

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## location : location : location

Romania positioned to be *The* Leading Regional Cloud Provider



- ❖ Romania is in an excellent geographic position to deliver cloud services to large parts of Mid and Eastern Europe, Turkey and the northern countries of the middle east.
- ❖ Romania excels in the provision of Fast and Resilient fibre links Nationally and Internationally
- ❖ Much of western Europe is constrained for Electrical Energy; Romania is blessed with an abundance of Green Power much needed by Google/ Amazon/Facebook/ Microsoft
- ❖ Romania has a significant and highly skilled IT community: e.g. The Cluj Cluster, well able to add value to that Power, and export high margin IT Cloud services instead.

The major cloud providers seek *Green Energy*; Romania is well positioned to meet that requirement. The installed capacity of Hydro Power is 6,715MW, representing 1/3rd of Romania Installed electricity generating capacity. Romania has a total of 767 hydroelectric plants and produces 6.28 billion KW/h of electricity per year.

## POWER

Power availability is the most critical function of a Data Centre and key to the 100% availability we provide is a redundant delivered power supply. Within the **EuRO** Data Park the designs for all our Data Centre environments incorporate the best of resilient power engineering so that no Single Points of Failure exist.



38MW of Primary Electrical Power, delivered via its own dedicated substations; serviced by 3 diverse routes from the National Grid: 2 x 16MVA and 1 x 6.3MVA;

Additional 25-50MW potential generation on-site using Fuel cells powered by natural gas: **EuRO** Data Park has a Methane Gas Feed capable of delivering 2,400-5000m<sup>3</sup>/Hr.



**EuRO** Data Park can deliver substantial power resources to meet all Data centre needs:

- 3 Diverse Grid Connections totalling 38MVA
- 32MW of Primary Power
- Sub-station within secure site
- Potential to increase available power to 90MW
- Multiple sources: Natural Gas, Solar, Hydro, conventional
- Power Densities from 340w/m<sup>2</sup> to 8,300w/m<sup>2</sup>

The park also has the potential for an extensive local solar power farm, and micro hydro schemes.

Green energy contracts (hydro & solar) can be arranged by the National Power Company.

GAS POWERED  
FUEL CELLS



# Romanian Fibre Routes

## Internal and International

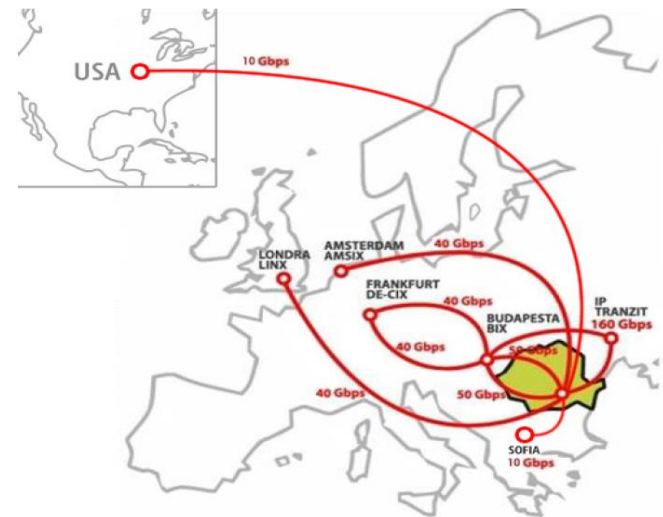
Romania ranked 10th in the world and 1st in Europe

**Telekom Romania**

**RCS & RDS**



- The largest coverage in Romania, by fixed and mobile footprint combination: 55.000 km of underground optical fiber, over 1,000 PoPs and a mobile coverage of 99%, on 2G, 2G+, 3G and 4G technologies
- A modern, extended and fully redundant international backbone in SEE region (exceeding 5 Tbps over 4 legs)



**Digi Business**

# Co-location Data centres : Investing in Romania

## Issues that create opportunity

### ❖ QUALITY

- ❖ There are NO UTI certified data centres in Romania
- ❖ There are almost NO data centres that would match the quality expected in Frankfurt, London, Paris, Amsterdam
- ❖ There are NO data centres of the scale offered by the co-lo providers in these cities

### ❖ BUSINESS CONTINUITY

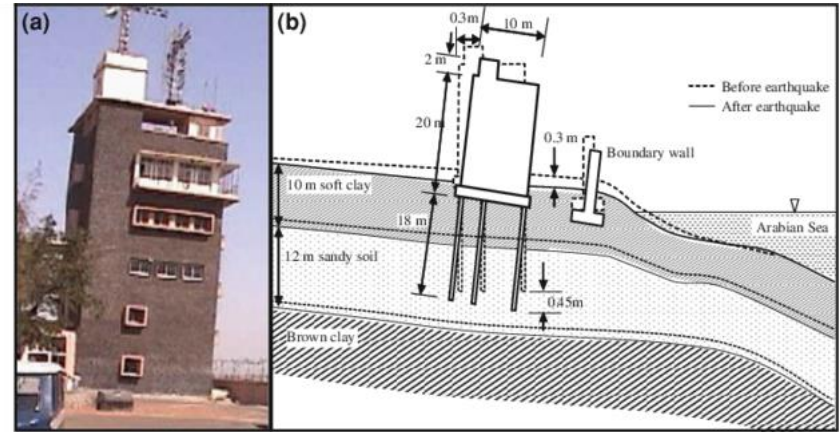
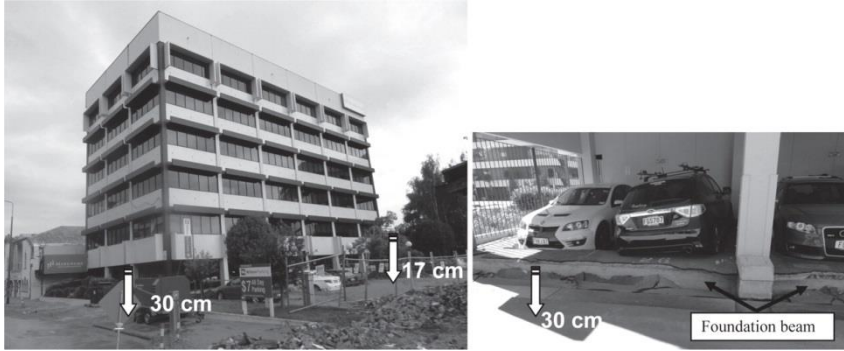
- ❖ Bucharest has a long history of earthquakes and seismic activity
- ❖ Romania now has well engineered and enforced building standards for new build
- ❖ The pre-existing properties do not meet these standards
  - ❖ There are currently 772 buildings with seismic risk in Bucharest and only 79 such buildings have been consolidated in the last 27 years, according to official data from the Bucharest City Hall.
  - ❖ Some 347 buildings are high-seismic risk, which means that they would likely fall according to updated lists on the city hall's website
- ❖ Bucharest is located in the Romanian Plain, between the Danube and the Carpathian Mountains, in the meadow area of two rivers, “liquefaction” will occur, leading to disruption of access to even the most robust of structures
- ❖ Previous events have seen re-configuration/ re-location of river courses and lakes
- ❖ Significant disruption to commercial activity is likely across the entire city.

### ❖ CONCENTRATION OF RISK

- ❖ Bucharest dominates the Finance, Commercial and Governmental provision of IT based services
- ❖ Back-up and Recovery planning is not fully developed
- ❖ There are very few LIVE:LIVE application or data centre configurations
- ❖ Brasov and Cluj can offer alternate data centres but are too distant to provide for the emerging FinTech demands for high-speed response.

# Liquefaction

Even if it is the other Guy your enterprise can also be compromised  
Your building might be upright but the world around you has moved



Liquefaction occurs when water soaked soil turns into a soup like liquid during an earthquake

# Co-location Data centres : Investing in Romania

## Issues that create doubt

### ❖ QUALITY

- ❖ There seems to be little pressure in the local market to provide the quality demanded in Western Europe
- ❖ Dacia, Skoda and others have transformed the eastern European Car industries. Much of the Data Centre market in Romania seems to be happy with a Trabant computer room.

### ❖ PRICE

- ❖ Some local players in the CO-LO market are offering their retail clients cabinet prices that are below the best COST levels that even Microsoft can extract from the biggest Global co-lo providers for 5-10 MW long term commitments

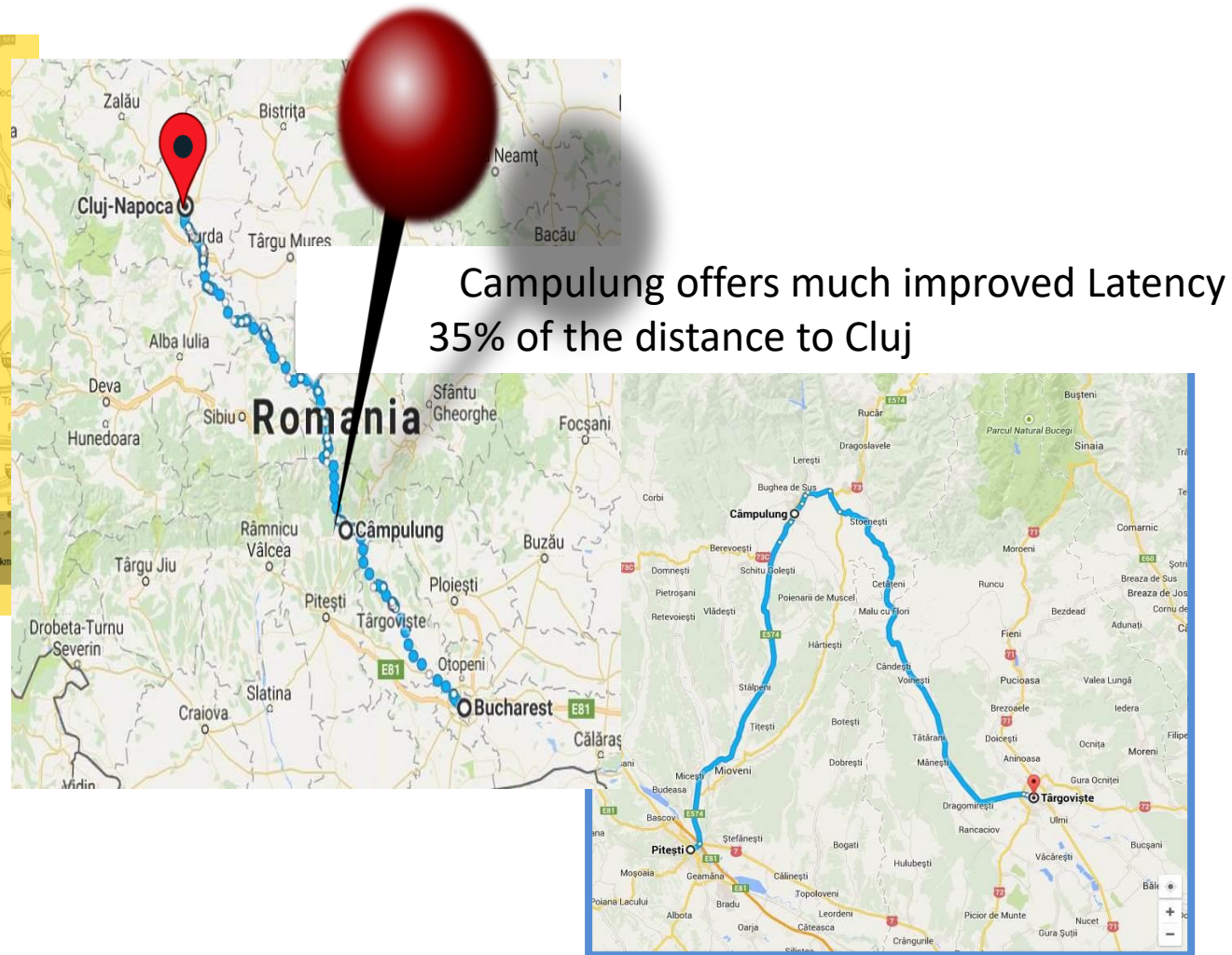
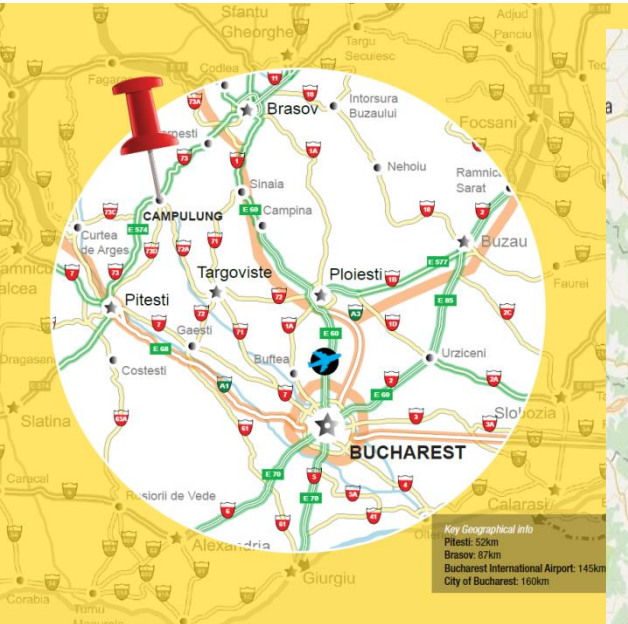
### ❖ BUSINESS CONTINUITY

- ❖ The local market has not fully understood the difference between having data back-up offsite, and being in a position to ensure that your business continues seamlessly.
- ❖ Disruption in the past 12 months at Airlines and Banks in Europe have demonstrated the huge financial costs of loss of IT services



# Business Continuity

## Overcoming the Bucharest Concentration of Risk



Even if it is the other Guy

your enterprise can also be compromised



7/7



9/11



Christchurch New Zealand



- ❖ **PROVISION OF MARKET NEEDS:** Data Centres, Disaster Recovery and Business Continuity Facilities
- ❖ **LOCATION:**
  - ❖ Meets evolving Fintech Latency and Business Continuity demands
  - ❖ Meets the needs of Cloud Services Provision across Emerging Europe, Turkey, Middle East, North Africa
- ❖ **QUALITY:** Tier III+ and bespoke to clients needs
- ❖ **SCALE:** Facilities can accommodate Data Centers ranging in size from 250KW to 20,000m2 and 50MW.
- ❖ **COST:** Less than 50% of current market rates
- ❖ **RAPID PROVISION:**
  - ❖ 6 Months
  - ❖ Municipality engaged
  - ❖ Expansion space and capabilities for JIT
- ❖ **ECONOMY:** free cooling for much of the year

